

Bellwork: 12/12/11 - use ANY method

$$\begin{aligned} 7x - 3y &= 5 \\ 3y - 7x &= 8 \end{aligned}$$

$$\begin{aligned} 7x - 3y &= 5 \\ -7x + 3y &= 8 \end{aligned}$$

No Solution

$$17 - 5y = 3x$$

$$x + y = 5 \quad ; \quad y = -x + 5$$

$$17 - 5(-x + 5) = 3x$$

$$17 + 5x - 25 = 3x$$

$$\begin{aligned} 5x - 8 &= 3x \\ -5x &\quad -5x \end{aligned}$$

$$-8 = -2x$$

$$4 = x$$

(4, 1)

☺ The solution of a linear inequality is an ordered pair (x, y) that satisfies the inequality.

☺ The solution to a linear inequality is a region of the coordinate plane and is called a *half-plane* bounded by a *boundary line*.

Graph each linear inequality.

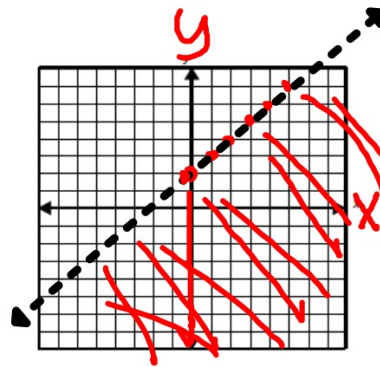
1) $y < x + 2$

$$y < \frac{1}{1}x + 2$$

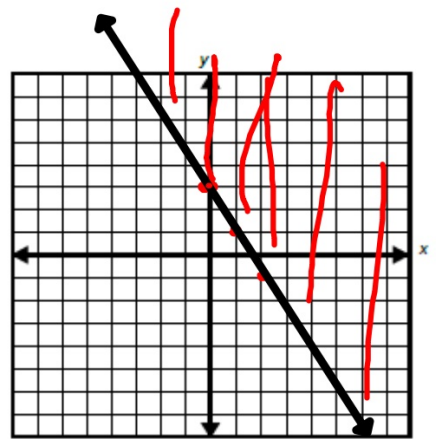
Test Point $(0, 0)$

$$0 < 0 + 2$$

$$0 < 2$$



$$2) y \geq -2x + 3$$

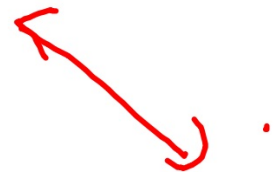
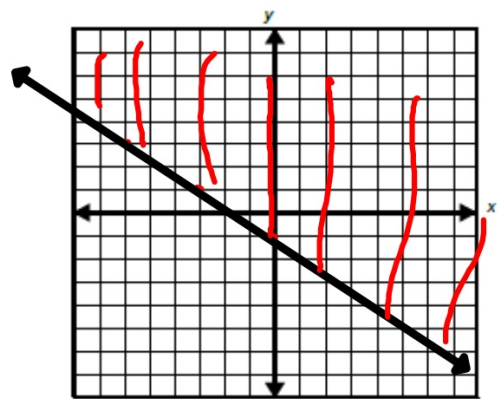


$$3) -2x - 3y \leq 3$$

$$+2x \quad | \quad 2x$$

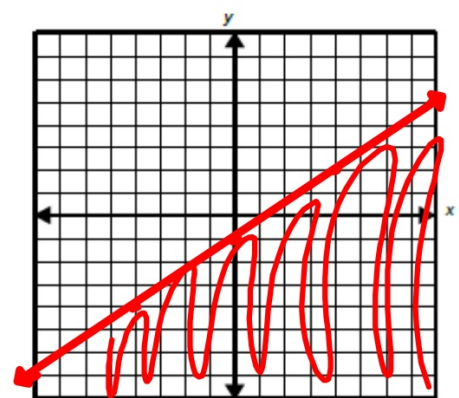
$$\frac{-3y}{-3} \leq \frac{2x+3}{-3}$$

$$y \geq \frac{2}{-3}x - 1$$



$$4) 3x - 4y \geq 4$$

$$\begin{array}{r} -3x \quad -3x \\ \hline -4y \geq -3x + 4 \\ \hline -4 \quad -4 \quad -4 \\ \hline \boxed{y \leq \frac{3}{4}x - 1} \end{array}$$



5) $x > 2$

